

## SEQUENCE LISTING

<110> FUSO Pharmaceutical Industries, Ltd.

Hiroyuki, Mizuguchi

Takao, Hayakawa

Fuminori, Sakurai

<120> Adenovirus vector

<130> PH-1823-PCT

<150> JP 2002-164015

<151> 2002-06-05

<160> 1

<170> PatentIn Ver. 2.0

<210> 1

<211> 34794

<212> DNA

<213> Adenovirus type 35

<400> 1

catcatcaat aatatacctt atagatggaa tggtgccaat atgtaaatga ggtgatttta 60  
aaaagtgtgg gccgtgtggt gatttgctgt ggggttaacg gttaaaaggg gcggcgcggc 120  
cgtgggaaaa tgacgtttta tgggggtgga gtttttttgc aagttgtcgc gggaaatggt 180  
acgcataaaa aggcttcttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240  
aaatgaggta gttttgaccg gatgcaagtg aaaattgctg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360  
 ccaggtagac tttagcccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420  
 ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctaggggtatt 480  
 tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540  
 tctgcgccgg cagttaata ataaaaaat gagagatttg cgatttctgc ctcaggaaat 600  
 aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660  
 cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720  
 agaggtagag ggatcggagg attctaata ggaagctgtg aatggctttt ttaccgattc 780  
 tatgctttta gctgctaata aaggattaga attagatccg cctttggaca ctttcaatac 840  
 tccaggggtg attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900  
 ggactgtgat ttgcaactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960  
 aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020  
 tcagttggat tgcccggagc ttcttggaac tggctgtaag tcttgatgaat ttcacaggaa 1080  
 aaatactgga gtaaaggaa tggtatgttc gctttgttat atgagaacgc actgccactt 1140  
 tatttacagt aagtgtgttt aagttaaaat ttaaaggaa atgctgtttt tcacatgtat 1200  
 attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260  
 atctcctgat tctactacct cacctcctga tattcaagca cctgttcctg tggacgtgcg 1320  
 caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaga aacttgagga 1380  
 cttgttacag ggtggggacg gacctttgga cttgagtaca cggaacgtc caagacaata 1440  
 agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaga gtgcaatgta 1500  
 ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggata 1560  
 taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggagggtt 1620  
 gggccatttt ggaagacctt aggaagacta ggcaactgtt agagagcgct tcggacggag 1680  
 tctccggttt ttggagattc tggttcgcta gtgaattagc taggtagtt tttaggataa 1740  
 aacaggacta taaacaagaa ttgaaaagt gtgtggtaga ttgccagga ctttttgaag 1800  
 ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860  
 caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920  
 tcccgcagac tcatttcagc aggggatacg ttttgattt catagccaca gcattgtgga 1980  
 gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagccttttg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100  
 aagaggacaa cccgagagcc ggcttgacc ctccagtga ggaggcggag tagctgactt 2160  
 gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggctt 2220  
 taagagggag agggcatcca gtggtactga tgctagatct gagttggctt taagtttaat 2280  
 gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340  
 agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttgagacc 2400  
 agaggatgat tgggcggtg ccattaaaaa ttatgccaa atagctttga ggctgataa 2460  
 acagtataag atcagtagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520  
 ggctgaggtg gtaatagata ctcaagacaa gacagttatt agatgctgca tgatggatat 2580  
 gtggcctgga gtagtcggtg tggaagcagt cacttttgta aatgttaagt ttaggggaga 2640  
 tgggtataat ggaatagtgt ttatggccaa taccaactt atattgcatg gttgtagctt 2700  
 ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac gggggtgtag 2760  
 tttctatgcg tgttggttg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820  
 atgcatattc caaagatgta acctgggcat tctgaatgaa ggcaagcaa ggtccgtca 2880  
 ctgcgttct acagatactg gatgttttat ttaattaag ggaaatgcca gcgtaaagca 2940  
 taacatgatt tgtggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000  
 gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060  
 ttttgatcac aatgtgttg ccaagtgcac catgcatgca ggtgggcgta gaggaatgtt 3120  
 tatgccttac cagtgtaca tgaatcatgt gaaagtgtt ttggaaccag atgccttttc 3180  
 cagaatgagc ctaacaggaa tctttgacat gaacacgcaa atctggaaga tcctgaggta 3240  
 tgatgatacg agatcgaggg tgcgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300  
 gccggtgtgt gtagatgtga ccgaagatct cagaccgat catttggtta ttgccgcac 3360  
 tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420  
 tggggtggga ttttcagatg gacagattga gtaaaaattt gttttttctg tcttgagct 3480  
 gacatgagtg gaaatgcttc ttttaagggg ggagcttca gcccttatct gacagggcgt 3540  
 ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600  
 gttcaaccg ccaattcttc aacgtgacc tatgctactt taagttcttc accttggac 3660  
 gcagctgcag ccgctgccgc cgctctgtc gccgctaaca ctgtgcttgg aatgggttac 3720  
 tatggaagca tcgtggctaa ttccacttcc tctaataacc cttctacact gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840  
cagcaggttg ccgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900  
taaaaaaaat tccagaatca atgaataaat aaacgagctt gttgttgatt taaaatcaag 3960  
tgtttttatt tcatttttcg cgcacgggat gccctggacc accgatctcg atcattgaga 4020  
actcggtgga ttttttccag aatcctatag aggtgggatt gaatgttttag atacatgggc 4080  
attaggccgt ctttggggtg gagatagctc cattgaaggg attcatgctc cggggtagtg 4140  
ttgtaaataca ccagtcata acaaggtcgc agtgcattgt gttgcacaat atcttttaga 4200  
agtaggctga ttgccacaga taagcccttg gtgtaggtgt ttacaaaccg gttgagctgg 4260  
gaggggtgca ttcgaggtga aattatgtgc attttggatt ggatttttaa gttggcaata 4320  
ttgccgcaa gatcccgctc tgggttcattg ttatgaagga ctaccaagac ggtgtatccg 4380  
gtacatttag gaaatttatc gtgcagcttg gatggaaaag cgtggaaaaa tttggagaca 4440  
cccttggtgc ctccgagatt ttccatgcac tcatccatga taatagcaat ggggccgtgg 4500  
gcagcgggcg gggcaaacac gttccgtggg tctgacacat catagttatg ttcttgagtt 4560  
aaatcatcat aagccatttt aatgaatttg gggcggagcg taccagattg gggatatgaat 4620  
gttccttcgg gccccggagc atagttcccc tcacagattt gcatttccca agctttcagt 4680  
tctgaggggtg gaatcatgtc cacctggggg gctatgaaga acaccgtttc gggggcgggg 4740  
gtgattagtt gggatgatag caagtttctg agcaattgag atttgccaca tccggtgggg 4800  
ccataaataa ttccgattac aggttgcagg tggtagttta gggaacggca actgccgtct 4860  
tctcgaagca agggggccac ctctgttcac atttccctta catgcatatt ttccgcacc 4920  
aaatccatta ggagcgctc tcctcctagt gatagaagtt cttgtagtga ggaaaagttt 4980  
ttcagcggtt ttagaccgtc agccatgggc attttgaaa gagtttgctg caaaagttct 5040  
agtctgttcc acagttcagt gatgtgttct atggcatctc gatccagcag acctcctcgt 5100  
ttcgcgggtt tggacggctc ctggagtagg gtatgagacg atgggcgtcc agcgctgcca 5160  
gggttcggtc cttccagggt ctcaagtgtc gattcagggt tgtttccgtc acagtgaagg 5220  
ggtgtgcgcc tgcttgggcg cttgccaggg tgcgcttcag actcattctg ctggttgaga 5280  
acttctgtcg cttggcgccc tgtatgtcgg ccaagtagca gtttaccatg agttcgtagt 5340  
tgagcgctc ggctgcgtgg cctttggcgc ggagcttacc tttggaagtt ttcttgcata 5400  
ccgggcagta taggcatttc agcgcataca gcttgggcgc aaggaaaatg gattctgggg 5460  
agtatgcac cgcgccgcag gaggcgcaaa cagtttcaca ttccaccagc caggttaaat 5520

ccggttcatt ggggtcaaaa acaagttttc cgccatattt tttgatgcgt ttcttacctt 5580  
 tggtctccat aagttcgtgt cctcgttgag tgacaaacag gctgtccgta tctccgtaga 5640  
 ctgattttac aggcctcttc tccagtggag tgccctcggtc ttcttcgtac aggaactctg 5700  
 accactctga tacaaggcg cgcgtccagg ccagcacaaa ggaggctatg tgggaggggt 5760  
 agcgatcggt gtcaaccagg ggggtccacct tttccaaagt atgcaaacac atgtcacctt 5820  
 cttcaacatc caggaatgtg attggcttgt aggtgtattt cacgtgacct ggggtccccg 5880  
 ctgggggggt ataaaagggg gcggttcttt gctcttcctc actgtcttcc ggatcgctgt 5940  
 ccaggaacgt cagctgttgg ggtaggtatt cctctctgaa ggcgggcatg acctctgcac 6000  
 tcaggttgtc agtttctaag aacgaggagg atttgatatt gacagtgccg gttgagatgc 6060  
 ctttcatgag gttttcgtcc atttggtcag aaaacacaat ttttttattg tcaagtttgg 6120  
 tggcaaatga tccatacagg gcgttgata aaagtttggc aatggatgc atggtttgggt 6180  
 tcttttctt gtccgcgcgc tctttggcgg cgatgttgag ttggacatac tcgcgtgcca 6240  
 ggcacttcca ttcggggaag atagttgtta attcatctgg cacgattctc acttgcacc 6300  
 ctcgattatg caaghtaatt aaatccacac tgggtggccac ctgcctcga aggggttcatt 6360  
 tgggtccaaca gagcctacct ctttccctag aacagaaagg gggaagtggg tctagcataa 6420  
 gttcatcggg agggctctgca tccatggtaa agattcccgg aagtaaatcc ttatcaaaat 6480  
 agctgatggg agtgggggtca tctaaggcca tttgccattc tcgagctgcc agtgcgcgct 6540  
 catatgggtt aaggggactg cccagggca tgggatgggt gagagcagag gcatacatgc 6600  
 cacagatgtc atagacgtag atgggacct caaagatgcc tatgtagggt ggatagcatc 6660  
 gccccctct gatacttgct cgcacatagt catatagttc atgtgatggc gctagcagcc 6720  
 ccggaccaa gttggtgca ttgggttttt ctgttctgta gacgatctgg cgaaagatgg 6780  
 cgtgagaatt ggaagagatg gtgggtcttt gaaaaatgtt gaaatgggca tgaggtagac 6840  
 ctacagagtc tctgacaaag tgggcataag attcttgaag cttggttacc agttcggcgg 6900  
 tgacaagtac gtctagggcg cagtagtcaa gtgtttcttg aatgatgtca taacctggtt 6960  
 ggtttttctt ttcccacagt tcgcggttga gaaggattc ttcgcgatcc ttccagtact 7020  
 cttctagcgg aaaccctct ttgtctgcac ggtaagatcc tagcatgtag aactgattaa 7080  
 ctgccttgta agggcagcag ccttctctta cgggtagaga gtatgcttga gcagcttttc 7140  
 gtagcgaagc gtgagtaagg gcaaagggtgt ctctgacct gactttgaga aattggtatt 7200  
 tgaagtccat gtcgtcacag gctccctgtt ccagagttg gaagtctacc cgtttcttgt 7260

aggcggggtt gggcaaagcg aaagtaacat cattgaagag aatcttaccg gctctgggca 7320  
 taaaattgcg agtgatgcgg aaaggctgtg gtacttccgc tcgattgttg atcacctggg 7380  
 cagctaggac gatttcgtcg aaaccgttga tgttgtgtcc tacgatgtat aattctatga 7440  
 aacgcggcgt gcctctgacg tgaggtagct tactgagctc atcaaagggt aggtctgttg 7500  
 ggtcagataa ggcgtagtgt tcgagagccc attcgtgcag gtgaggattt gcatgtagga 7560  
 atgatgacca aagatctacc gccagtgtg tttgtaactg gtcccgatac tgacgaaaat 7620  
 gccggccaat tgccattttt tctggagtga cacagtagaa ggttctgggg tcttgttgcc 7680  
 atcgatccca cttgagttaa atggctagat cgtgggccat gttgacgaga cgctcttctc 7740  
 ctgagagttt catgaccagc atgaaaggaa ctagttgttt gccaaaggat cccatccagg 7800  
 tgtaagtttc cacatcgtag gtcaggaaga gtctttctgt gcgaggatga gagccgatcg 7860  
 ggaagaactg gatttcctgc caccagttgg aggattggct gttgatgtga tggaagtaga 7920  
 agtttctgcg gcgcgccgag cattcgtgtt tgtgcttgta cagacggccg cagtagtcgc 7980  
 agcgttgcac gggttgtatc tcgtgaatga gctgtacctg gcttcccttg acgagaaatt 8040  
 tcagtgggaa gccgaggcct ggcgattgta tctcgtgctc ttctatattc gctgtatcgg 8100  
 cctgttcatc ttctgtttcg atggttggtca tgctgacgag ccccgcgagg aggcaagtcc 8160  
 agacctcggc gcgggagggg cggagctgaa ggacgagagc gcgcaggctg gagctgtcca 8220  
 gagtcctgag acgctgcgga ctcaggttag taggtaggga cagaagatta acttgcata 8280  
 tcttttccag ggcggtcggg aggttcagat ggtacttgat ttccacaggt tcgtttgtag 8340  
 agacgtcaat ggcttgacgg gttccgtgtc ctttgggcgc cactaccgta cctttgtttt 8400  
 ttcttttgat cgggtggtggc tctcttgctt cttgcatgct cagaagcggg gacggggacg 8460  
 cgcgccgggc ggcagcggtt gttccggacc cgggggcatg gctggtagtg gcacgtcggc 8520  
 gccgcgcag ggcaggttct ggtattgcgc tctgagaaga cttgcgtgcg ccaccacgcg 8580  
 tcgattgacg tcttgatatc gacgtctctg ggtgaaagct accggccccg tgagcttgaa 8640  
 cctgaaagag agttcaacag aatcaatttc ggtatcgtaa acggcagctt gtctcagtat 8700  
 ttcttgtagc tcaccagagt tgcctggta ggcatctcc gccatgaact gctcgatttc 8760  
 ttctctctga agatctccgc gaccgctct ttcgacgggt gccgcgaggt cattggagat 8820  
 acggcccatg agttgggaga atgcattcat gccgcctcg ttccagacgc ggctgtaaac 8880  
 cacggcccc tcggagtctc ttgcgcgcac caccacctga gcgaggttaa gctccacgtg 8940  
 tctggtgaag accgcatagt tgcataggcg ctgaaaaagg tagttgagtg tggtggcaat 9000

gtgttcggcg acgaagaaat acatgatcca tcgtctcagc ggcatthtcgc taacatcgcc 9060  
 cagagcttcc aagcgctcca tggcctcgta gaagtccacg gcaaaattaa aaaactggga 9120  
 gtttcgcgcg gacacgggtca attcctcctc gagaagacgg atgagttcgg ctatggtggc 9180  
 ccgtacttcg cgttcgaagg ctcccgggat ctcttcttcc tcttctatct cttcttccac 9240  
 taacatctct tcttcgtctt caggcggggg cggagggggc acgcggcgac gtcgacggcg 9300  
 cacgggcaaa cggtcgatga atcgttcaat gacctctccg cggcggcggc gcatggtttc 9360  
 agtgacggcg cggccgttct cgcgcggtcg cagagtaaaa acaccgccgc gcatctcctt 9420  
 aaagtgggtga ctgggaggtt ctccgtttgg gagggagagg gcgctgatta tacattttat 9480  
 taattggccc gtagggactg cgcgcagaga tctgatcgtg tcaagatcca cgggatctga 9540  
 aaacctttcg acgaaagcgt ctaaccagtc acagtcacaa ggtaggctga gtacggcttc 9600  
 ttgtggggcg ggggtggttat gtgttcggtc tgggtcttct gtttcttctt catctcggga 9660  
 aggtgagacg atgctgctgg tgatgaaatt aaagtaggca gttctaagac ggcggtatgg 9720  
 ggcgaggagc accaggctct tgggtccggc ttgctggata cgcaggcgat tggccattcc 9780  
 ccaagcatta tctgacatc tagcaagatc tttgtagtag tcttgcatga gccgttctac 9840  
 gggcacttct tctcaccgc ttctgccatg catacgttg agtccaaatc cgcgcattgg 9900  
 ttgtaccagt gccaaagtcag ctacgactct ttcggcgagg atggcttgct gtacttgggt 9960  
 aagggtggct tgaaagtcac caaaatccac aaagcgggtg taagcccctg tattaatgg 10020  
 gtaagcacag ttggccatga ctgaccagtt aactgtctgg tgaccagggc gcacgagctc 10080  
 ggtgtattta aggcgcgaat aggcgcgggt gtcaaagatg taatcggtgc aggtgcgcac 10140  
 cagatactgg taccctataa gaaaatgcgg cgggtggttg cggtagagag gccatcgctc 10200  
 ttagctgga gcgccagggg cgaggtcttc caacataagg cggtagatagc cgtagatgta 10260  
 cctggacatc cagggtgatt ctgcggcgggt agtagaagcc cgaggaaact cgcgtacgcg 10320  
 gttccaaatg ttgcgtagcg gcatgaagta gttcattgta ggcacggttt gaccagttag 10380  
 gcgcgcgcag tcattgatgc tctatagaca cggagaaaat gaaagcgttc agcgactcga 10440  
 ctccgtagcc tggaggaacg tgaacgggtt gggtcgcggt gtaccccggt tcgagacttg 10500  
 tactcgagcc ggccggagcc gcggctaacg tggatattggc actcccgtct cgaccagcc 10560  
 tacaaaaatc caggatacgg aatcgagtcg ttttgcgtgg ttccgaatgg cagggaagtg 10620  
 agtcctatth tttttttttt tttgccgctc agatgcatcc cgtgctgcga cagatgcgcc 10680  
 cccaacaaca gccccctcg cagcagcagc agcagcaacc aaaaaggct gtccctgcaa 10740

ctactgcaac tgccgccgtg agcgggtgcgg gacagcccgc ctatgatctg gacttggaag 10800  
agggcgaagg actggcacgt ctaggtgcgc cttcgccga gcgcatccg cgagttcaac 10860  
tgaaaaaaga ttctcgcgag gcgtatgtgc cccaacagaa cctatttaga gacagaagcg 10920  
gcgaggagcc ggaggagatg cgagcttccc gctttaacgc gggtcgtgag ctgcgtcacg 10980  
gtttggaccg aagacgagtg ttgcgagacg aggatttcga agttgatgaa gtgacaggga 11040  
tcagtcctgc cagggcacac gtggctgcag ccaaccttgt atcggttac gagcagacag 11100  
taaaggaaga gcgtaacttc caaaagtctt ttaataatca tgtgcgaacc ctgattgccc 11160  
gcgaagaagt tacccttggt ttgatgcatt tgtgggattt gatggaagct atcattcaga 11220  
accctactag caaacctctg accgcccagc tgtttctggt ggtgcaacac agcagagaca 11280  
atgaggcttt cagagaggcg ctgctgaaca tcaccgaacc cgaggggaga tggttgtatg 11340  
atcttatcaa cattctacag agtatcatag tgcaggagcg gagcctgggc ctggccgaga 11400  
aggtagctgc catcaattac tcggttttga gcttgggaaa atattacgct cgcaaatct 11460  
acaagactcc atacgttccc atagacaagg aggtgaagat agatgggttc tacatgcgca 11520  
tgacgctcaa ggtcttgacc ctgagcgatg atcttgggt gtatcgcaat gacagaatgc 11580  
atcgcgcggt tagcgccagc aggaggcgcg agttaagcga cagggaactg atgcacagtt 11640  
tgcaaagagc tctgactgga gctggaaccg aggtgagaa ttacttcgac atgggagctg 11700  
acttgacgtg gcagcctagt cgcagggtc tgagcgccgc gacggcagga tgtgagcttc 11760  
cttacataga agaggcggt gaaggcgagg aggaagaggg cgagtacttg gaagactgat 11820  
ggcacaaccc gtgttttttg ctagatggaa cagcaagcac cggatcccgc aatgcgggcg 11880  
gcgctgcaga gccagccgtc cggcattaac tcctcggacg attggacca ggccatgcaa 11940  
cgtatcatgg cgttgacgac tcgcaacccc gaagccttta gacagcaacc ccaggccaac 12000  
cgtctatcgg ccatcatgga agctgtagtg ccttcccgat ctaatcccac tcatgagaag 12060  
gtcctggcca tcgtgaacgc gttggtggag acaaagcta ttcgtccaga tgaggccgga 12120  
ctggtataca acgctctctt agaacgcgtg gctcgtaca acagtagcaa tgtgcaaacc 12180  
aatttgacc gtatgataac agatgtacgc gaagccgtgt ctacgcgca aaggttcag 12240  
cgtgatgcca acctgggttc gctggtggcg ttaaagtctt tcttgagtac tcagcctgct 12300  
aatgtgccgc gtggtcaaca ggattatact aactttttaa gtgctttgag actgatggta 12360  
tcagaagtac ctacagagca agtgtatcag tccggtcctg attacttctt tcagactagc 12420  
agacagggtc tgcagacggt aaatctgagc caagctttta aaaacctta aggtttgtgg 12480



ggagtgcattg ccccggtagg agaaagagca accgtgtcta gcttggttaac tccgaactcc 12540  
 cgctgttat tactgttggg agctcctttc accgacagcg gtagcatcga ccgtaattcc 12600  
 tatttgggtt acctactaaa cctgtatcgc gaagccatag ggcaaagtca ggtggacgag 12660  
 cagacctatc aagaaattac ccaagtcagt cgcgctttgg gacaggaaga cactggcagt 12720  
 ttggaagcca ctctgaactt cttgcttacc aatcggtctc aaaagatccc tcctcaatat 12780  
 gctcttactg cggaggagga gaggatcctt agatatgtgc agcagagcgt gggattgttt 12840  
 ctgatgcaag agggggcaac tccgactgca gcaactggaca tgacagcgcg aaatatggag 12900  
 ccagcatgt atgccagtaa ccgacctttc attaacaaac tgctggacta cttgcacaga 12960  
 gctgccgcta tgaactctga ttatttcacc aatgccatct taaacccgca ctggctgccc 13020  
 ccacctgggtt tctacacggg cgaatatgac atgcccagacc ctaatgacgg atttctgtgg 13080  
 gacgacgtgg acagcgatgt tttttcacct ctttctgac atcgacagt gaaaaaggaa 13140  
 ggcgggtgata gaatgcattc ttctgcatcg ctgtccgggg tcatgggtgc taccgcggct 13200  
 gagccccagt ctgcaagtcc ttttcctagt ctaccctttt ctctacacag tgtacgtagc 13260  
 agcgaagtgg gtagaataag tcgccccagt ttaatgggcg aagaggagta cctaaacgat 13320  
 tccttgctca gaccggcaag agaaaaaat ttcccaaaca atggaataga aagtttggtg 13380  
 gataaaatga gtagatggaa gacttatgct caggatcaca gagacgagcc tgggatcatg 13440  
 gggactacaa gtagagcgag ccgtagacgc cagcgccatg acagacagag gggctttgtg 13500  
 tgggacgatg aggattcggc cgatgatagc agcgtgttgg acttgggtgg gagaggaagg 13560  
 ggcaaccctt ttgctcattt gcgccctcgc ttgggtggta tgttggtgaaa aaaaataaaa 13620  
 aagaaaaact caccaaggcc atggcgacga gcgtacgttc gttcttcttt attatctgtg 13680  
 tctagtataa tgaggcgagt cgtgctaggc ggagcggtgg tgtatccgga gggctcctct 13740  
 ccttcgtacg agagcgtgat gcagcagcag caggcgacgg cggtgatgca atccccactg 13800  
 gaggtccct ttgtgcctcc gcgatactg gcacctacgg agggcagaaa cagcattcgt 13860  
 tactcggaac tggcacctca gtacgatacc accaggttgt atctggtgga caacaagtcg 13920  
 gcggacattg cttctctgaa ctatcagaat gaccacagca acttcttgac caggttggtg 13980  
 cagaacaatg actttacccc tacggaagcc agcaccaga ccattaactt tgatgaacga 14040  
 tcgcgggtggg gcggtcagct aaagaccatc atgcatacta acatgccaaa cgtgaacgag 14100  
 tatatgttta gtaacaagtt caaagcgcgt gtgatggtgt ccagaaaacc tcccgacggg 14160  
 gctgcagttg gggatactta tgatcacaag caggatattt tggaatatga gtggttcgag 14220

ttacttttgc cagaaggcaa cttttcagtt actatgacta ttgatttgat gaacaatgcc 14280  
 atcatagata attacttgaa agtgggtaga cagaatggag tgcttgaaag tgacattggt 14340  
 gttaagtctg acaccaggaa cttcaagctg ggatgggata ccgaaaccaa gttgatcatg 14400  
 cctggagtgt atacgtatga agccttccat cctgacattg tcttactgcc tggctgcgga 14460  
 gtggatttta ccgagagtcg tttgagcaac cttcttggtg tcagaaaaaa acagccattt 14520  
 caagagggtt ttaagatttt gtatgaagat ttagaagggt gtaatatcc ggccctcttg 14580  
 gatgtagatg cctatgagaa cagtaagaaa gaacaaaaag ccaaaataga agctgctaca 14640  
 gctgctgcag aagctaaggc aaacatagtt gccagcgact ctacaagggt tgctaacgct 14700  
 ggagaggta gagagagaaa ttttgcgcca acacctgttc cgactgcaga atcattattg 14760  
 gccgatgtgt ctgaaggaa ggacgtgaaa ctactattc aacctgtaga aaaagatagt 14820  
 aagaatagaa gctataatgt gttggaagac aaaatcaaca cagcctatcg cagttggtat 14880  
 ctttcgtaca attatggcga tcccgaaaaa ggagtgcgtt cctggacatt gctcaccacc 14940  
 tcagatgtca cctgcggagc agagcaggtt tactggctgc ttccagacat gatgaaggat 15000  
 cctgtcactt tccgctccac tagacaagtc agtaactacc ctgtggtggg tgcagagctt 15060  
 atgcccgtct tctcaaagag cttctacaac gaacaagctg tgtactccca gcagctccgc 15120  
 cagtccacct cgcttacgca cgtcttcaac cgctttcctg agaaccagat tttaatccgt 15180  
 ccgccggcgc ccaccattac caccgtcagt gaaaacgttc ctgctctcac agatcacggg 15240  
 accctgccgt tgcgcagcag tatccgggga gtccaacgtg tgaccgttac tgacgccaga 15300  
 cgccgcacct gtccctacgt gtacaaggca ctgggcatag tgcaccgcgc cgtcctttca 15360  
 agccgcactt tctaaaaaaa aaaaatgtcc attcttatct cgcccagtaa taacaccggt 15420  
 tggggctctgc gcgctccaag caagatgtac ggaggcgcac gcaaacgttc taccacaacat 15480  
 cccgtgcgtg ttgcgggaca ttttcgcgt ccatgggggtg ccctcaaggg ccgcactcgc 15540  
 gttcgaacca ccgtcgatga tgtaatcgat cagggtggtg ccgacgcccg taattatact 15600  
 cctactgcgc ctacatctac tgtggatgca gttattgaca gtgtagtggc tgacgtcgc 15660  
 aactatgctc gacgtaagag ccggcgaagg cgcattgcc gacgccaccg agctaccact 15720  
 gccatgcgag ccgcaagagc tctgctacga agagctagac gcgtggggcg aagagccatg 15780  
 cttaggggcg ccagacgtgc agcttcgggc gccagcgccg gcagggtccc caggcaagca 15840  
 gccgtgtcg cagcggcgac tattgccgac atggcccaat cggaagagg caatgtatac 15900  
 tgggtgcgtg acgctgccac cggtaacgt gtaccctgc gcaccgtcc ccctcgcact 15960

tagaagatac tgagcagtct ccgatgttgt gtcccagcgg cgaggatgtc caagcgcaaa 16020  
tacaaggaag aaatgctgca ggttatcgca cctgaagtct acggccaacc gttgaaggat 16080  
gaaaaaaaaac cccgcaaaat caagcgggtt aaaaaggaca aaaaagaaga ggaagatggc 16140  
gatgatgggc tggcggagtt tgtgcgcgag tttgccccac ggcgacgcgt gcaatggcgt 16200  
gggcgcaaag ttcgacatgt gttgagacct ggaacttcgg tggcttttac acccggcgag 16260  
cgttcaagcg ctacttttaa gcgttcctat gatgaggtgt acgggggatga tgatattctt 16320  
gagcaggcgg ctgaccgatt aggcgagttt gcttatggca agcgtagtag aataacttcc 16380  
aaggatgaga cagtgtcaat acccttggat catggaaatc ccaccctag tcttaaaccg 16440  
gtcactttgc agcaagtgtt acccgtaact ccgcgaacag gtgttaaacg cgaaggtgaa 16500  
gattttgtatc ccactatgca actgatggta cccaaacgcc agaagttgga ggacgttttg 16560  
gagaaagtaa aagtggatcc agatattcaa cctgaggtta aagtgagacc cattaagcag 16620  
gtagcgcctg gtctgggggt acaaaactgta gacattaaga ttccactga aagtatggaa 16680  
gtgcaaactg aacccgcaaa gcctactgcc acctccactg aagtgcaaac ggatccatgg 16740  
atgcccacgc ctattacaac tgacgccgcc ggtcccactc gaagatcccg acgaaagtac 16800  
ggtccagcaa gtctgttgat gcccaattat gttgtacacc catctattat tcctactcct 16860  
ggttaccgag gcaactgcta ctatcgcagc cgaaacagta cctcccgcg tgccgcaag 16920  
acacctgcaa atcgcagtcg tcgccgtaga cgcacaagca aaccgactcc cggcgccctg 16980  
gtgcggcaag tgtaccgcaa tggtagtgcg gaacctttga cactgccgcg tgcgcgttac 17040  
catccgagta tcatactta atcaatgttg ccgctgcctc cttgcagata tggccctcac 17100  
ttgtgcctt cgcgttccca tcaactgtta ccgaggaaga aactcgcgcc gtagaagagg 17160  
gatgttggga cgcggaatgc gacgctacag gcgacggcgt gctatccgca agcaattgcg 17220  
gggtggtttt ttaccagcct taattccaat tatcgtgct gcaattggcg cgataccagg 17280  
catagcttcc gtggcgggtc aggcctcgca acgacattga cattggaaaa aaaacgtata 17340  
aataaaaaaa aatacaatgg actctgacac tcctggtcct gtgactatgt tttcttagag 17400  
atggaagaca tcaatttttc atccttggct ccgcgacacg gcacgaagcc gtacatgggc 17460  
acctggagcg acatcggcac gagccaactg aacgggggcg cttcaattg gagcagtatc 17520  
tgagcggggc ttaaaaattt tggctcaacc ataaaaacat acgggaacaa agcttggaac 17580  
agcagtacag gacaggcgt tagaaataaa cttaagacc agaacttcca acaaaaagta 17640  
gtcgatggga tagcttccgg catcaatgga gtggtagatt tggctaacca ggctgtgcag 17700

aaaaagataa acagtcgttt ggacccgccg ccagcaaccc caggtgaaat gcaagtggag 17760  
gaagaaattc ctccgccaga aaaacgaggc gacaagcgtc cgcgccccga tttggaagag 17820  
acgctggtga cgcgcgtaga tgaaccgcct tcttatgagg aagcaacgaa gcttggaaatg 17880  
cccaccacta gaccgatagc cccaatggcc accgggggtga tgaaaccttc tcagttgcat 17940  
cgacccgtca ccttggattt gccccctccc cctgctgcta ctgctgtacc cgcttctaag 18000  
cctgtcgtg ccccgaaacc agtcgccgta gccaggtcac gtcccggggg cgctcctcgt 18060  
ccaaatgcgc actggcaaaa tactctgaac agcatcgtgg gtctaggcgt gcaaagtgtg 18120  
aaacgccgtc gctgctttta attaaatatg gagtagcgct taacttgcct atctgtgtat 18180  
atgtgtcatt acacgccgtc acagcagcag aggaaaaaag gaagaggtcg tgcgtcgacg 18240  
ctgagttact ttcaagatgg ccacccccatc gatgctgccc caatgggcat acatgcacat 18300  
cgccggacag gatgcttcgg agtacctgag tccgggtctg gtgcagttcg cccgcgccac 18360  
agacacctac ttcaatctgg gaaataagtt tagaaatccc accgtagcgc cgaccacga 18420  
tgtgaccacc gaccgtagcc agcggctcat gttgcgttc gtgcccgtg accgggagga 18480  
caatacatac tcttaciaag tgcggtacac cctggccgtg ggcgacaaca gagtgttgga 18540  
tatggccagc acgttctttg acattagggg cgtgttggac agagggtccc gtttcaaacc 18600  
ctattctggt acggcttaca actctctggc tcctaaaggc gctccaaatg catctcaatg 18660  
gattgcaaaa ggcgtaccaa ctgcagcagc cgcaggcaat ggtgaagaag aacatgaaac 18720  
agaggagaaa actgctactt acacttttgc caatgctcct gtaaaagccg aggctcaaat 18780  
tacaaaagag ggcttaccaa taggttttga gatttcagct gaaaacgaat ctaaaccat 18840  
ctatgcagat aaactttatc agccagaacc tcaagtggga gatgaaactt ggactgacct 18900  
agacggaaaa accgaagagt atggaggcag ggctctaaag cctactacta acatgaaacc 18960  
ctgttacggg tcctatgca agcctactaa tttaaaaggt ggtcaggcaa aaccgaaaaa 19020  
ctcgaaccg tcgagtga aaattgaata tgatattgac atggaatfff ttgataactc 19080  
atcgcaaaga acaaacttca gtcctaaaat tgtcatgtat gcagaaaatg taggtttgga 19140  
aacgccagac actcatgtag tgtacaaacc tggaacagaa gacacaagtt ccgaagctaa 19200  
tttgggacaa cagtctatgc ccaacagacc caactacatt ggcttcagag ataactttat 19260  
tggaactcat tactataaca gtactggtaa catgggggtg ctggctggtc aagcgtctca 19320  
gttaaataca gtggttgact tgcaggacag aaacacagaa ctttcttacc aactcttgct 19380  
tgactctctg ggcgacagaa ccagatactt tagcatgtgg aatcaggctg tggacagtta 19440

tgatcctgat gtacgtgta ttgaaaatca tgggtgtggaa gatgaacttc ccaactattg 19500  
 ttttccactg gacggcatag gtgttccaac aaccagttac aaatcaatag ttccaaatgg 19560  
 agaagataat aataattgga aagaacctga agtaaatgga acaagtgaga tcggacaggg 19620  
 taatttgitt gccatggaaa ttaaccttca agccaatcta tggcgaagtt tcctttattc 19680  
 caatgtggct ctgtatctcc cagactcgta caaatacacc cegtccaatg tcactcttcc 19740  
 agaaaacaaa aacacctacg actacatgaa cgggcgggtg gtgccgcat ctctagtaga 19800  
 cacctatgtg aacattgggtg ccagggtggtc tctggatgcc atggacaatg tcaaccatt 19860  
 caaccaccac cgtaacgctg gcttgcgtta ccgatctatg cttctgggta acggacgtta 19920  
 tgtgcctttc cacatacaag tgcctcaaaa attcttcgct gttaaaaacc tgctgcttct 19980  
 cccaggctcc tacacttatg agtggaaactt taggaaggat gtgaacatgg ttctacagag 20040  
 ttccctcggg aacgacctgc gggtagatgg cgccagcatc agtttcacga gcatcaacct 20100  
 ctatgctact tttttccca tggctcaca caccgcttcc acccttgaag ccatgctgcg 20160  
 gaatgacacc aatgatcagt cattcaacga ctacctatct gcagctaaca tgctctaccc 20220  
 cattcctgcc aatgcaacca atattcccat ttccattcct tctcgcaact gggcggcttt 20280  
 cagaggctgg tcatttacca gactgaaaac caaagaaact cctcttttgg ggtctggatt 20340  
 tgaccctac tttgtctatt ctggttctat tccctacctg gatggtacct tctacctgaa 20400  
 ccacactttt aagaagggtt ccatcatggt tgactcttca gtgagctggc ctggaaatga 20460  
 caggttacta tctcctaacg aatttgaaat aaagcgcact gtggatggcg aaggctacaa 20520  
 cgtagcccaa tgcaacatga ccaaagactg gttcttggta cagatgctcg ccaactacaa 20580  
 catcggctat cagggttct acattccaga aggatacaaa gatcgcatgt attcattttt 20640  
 cagaaacttc cagcccatga gcaggcaggt ggttgatgag gtcaattaca aagacttcaa 20700  
 ggccgtcgcc ataccctacc aacacaacaa ctctggcttt gtgggttaca tggctccgac 20760  
 catgcgcaa ggtcaaccct atcccgttaa ctatccctat cactcattg gaacaactgc 20820  
 cgtaaatagt gttacgcaga aaaagtcttt gtgtgacaga accatgtggc gcataccgtt 20880  
 ctcgagcaac ttcatgtcta tgggggcct tacagacttg ggacagaata tgctctatgc 20940  
 caactcagct catgctctgg acatgacctt tgagggtgat cccatggatg agcccaccct 21000  
 gctttatctt ctcttcgaag ttttcgacgt ggtcagagt catcagccac accgcggcat 21060  
 catcgaggca gtctacctgc gtacaccgtt ctcgccggt aacgctacca cgtaagaagc 21120  
 ttcttgcttc ttgcaaatag cagctgcaac catggcctgc ggatcccaaa acggctccag 21180

cgagcaagag ctcagagcca ttgtccaaga cctgggttgc ggaccctatt ttttgggaac 21240  
 ctacgataag cgcttcccgg ggttcatggc ccccgataag ctcgcctgtg ccattgtaaa 21300  
 tacggccgga cgtgagacgg ggggagagca ctggttggct ttcggttga acccacgttc 21360  
 taacacctgc tacctttttg atccttttgg attctcggat gatcgtctca aacagattta 21420  
 ccagtttgaa tatgagggtc tcctgcgccg cagcgcctctt gctaccaagg accgctgtat 21480  
 tacgctggaa aaatctaccc agaccgtgca gggccccgt tctgccgcct gcggactttt 21540  
 ctgctgcatg ttccttcacg cctttgtgca ctggcctgac cgtcccatgg acggaaaccc 21600  
 caccatgaaa ttgctaactg gagtgccaaa caacatgctt cattctccta aagtccagcc 21660  
 caccctgtgt gacaatcaaa aagcactcta ccattttctt aataccatt cgccttattt 21720  
 tcgctctcat cgtacacaca tcgaaagggc cactgcgttc gaccgtatgg atgttcaata 21780  
 atgactcatg taaacaacgt gttcaataaa catcacttta tttttttaca tgtatcaagg 21840  
 ctctggatta cttatttatt tacaagtcga atgggttctg acgagaatca gaatgaccg 21900  
 caggcagtga tacgttgccg aactgatact tgggttgcca cttgaattcg ggaatcacca 21960  
 acttgggaac cgttatatcg ggcaggatgt cactccacag ctttctggtc agctgcaaag 22020  
 ctccaagcag gtcaggagcc gaaatcttga aatcacaatt aggaccagtg ctctgagcgc 22080  
 gagagttagc gtacaccgga ttgcagcact gaaacacat cagcgacgga tgtctcacgc 22140  
 ttgccagcac ggtgggatct gcaatcatgc ccacatccag atcttcagca ttggcaatgc 22200  
 tgaacggggt catcttgag gtctgcctac ccatggcggg cacccaatta ggcttgtggt 22260  
 tgcaatcgca gtgcaggggg atcagtatca tcttggcctg atcctgtctg attcctggat 22320  
 acacggctct catgaaagca tcatattgct tgaaagcctg ctgggcttta ctaccctcg 22380  
 tataaaacat cccgcaggac ctgctcgaaa actggtagc tgcacagccg gcatcattca 22440  
 cacagcagcg ggcgtcattg ttggctatth gcaccacact tctgccccag cggttttggg 22500  
 tgattttggt tcgctcggga ttctccttta aggctcgttg tccgttctcg ctggccacat 22560  
 ccatctcgat aatctgctcc ttctgaatca taatattgcc atgcaggcac ttcagcttgc 22620  
 cctcataatc attgcagcca tgaggccaca acgcacagcc tgtacattcc caattatggt 22680  
 gggcgatctg agaaaaagaa tgtatcattc cctgcagaaa tcttcccatc atcgtgtca 22740  
 gtgtcttgtg actagtgaag gttaactgga tgcctcgggtg ctcttcgttt acgtactggt 22800  
 gacagatgcg cttgtattgt tcgtgttgc caggcattag tttaaaacag gttctaagtt 22860  
 cgttatccag cctgtacttc tccatcagca gacacatcac ttccatgcct ttctcccaag 22920

cagacaccag gggcaagcta atcggattct taacagtgca ggcagcagct cctttagcca 22980  
gagggtcattc ttttagcgatc ttctcaatgc ttcttttgcc atcctttctca acgatgcgca 23040  
cgggcgggta gctgaaaccc actgctacaa gttgcgcctc ttctctttct tcttcgctgt 23100  
cttgactgat gtcttgcatg gggatatgtt tggctcttcct tggcttcttt ttggggggta 23160  
tcggaggagg aggactgtcg ctccgttccg gagacaggga ggattgtgac gtttcgctca 23220  
ccattaccaa ctgactgtcg gtagaagaac ctgacccac acggcgacag gtgtttttct 23280  
tcgggggcag aggtggaggc gattgcgaag ggctgcggtc cgacctggaa ggcggatgac 23340  
tggcagaacc ccttccgcgt tcgggggtgt gctccctgtg gcggtcgctt aactgatttc 23400  
cttcgcggct ggccattgtg ttctcctagg cagagaaaca acagacatgg aaactcagcc 23460  
attgctgtca acatcgccac gagtgccatc acatctcgtc ctcagcgacg aggaaaagga 23520  
gcagagctta agcattccac cgcccagtc tgccaccacc tctaccctag aagataagga 23580  
ggtcgacgca tctcatgaca tgcagaataa aaaagcgaaa gagtctgaga cagacatcga 23640  
gcaagaccgc ggctatgtga caccgggtga acacgaggaa gaggtgaaac gctttctaga 23700  
gagagaggat gaaaactgcc caaacacgcg agcagataac taccaccaag atgctggaaa 23760  
tagggatcag aacaccgact acctcatagg gcttgacggg gaagacgcgc tccttaacaa 23820  
tctagcaaga cagtcgctca tagtcaagga tgcattattg gacagaactg aagtgcccat 23880  
cagtgtggaa gagctcagct gcgcctacga gcttaacctt ttttcacctc gtactcccc 23940  
caaacgtcag ccaaacggca cctgcgagcc aaatcctcgc ttaaactttt atccagcttt 24000  
tgctgtgccga gaagtactgg ctacctatca catctttttt aaaaatcaaa aaattccagt 24060  
ctcctgccgc gctaactgca cccgcgccga tgccctactc aatctgggac ctggttcacg 24120  
cttacctgat atagcttcct tggaagaggt tccaaagatc ttcgagggtc tgggcaataa 24180  
tgagactcgg gccgcaaatt ctctgcaaaa gggagaaaat ggcatggatg agcatcacag 24240  
cgttctggtg gaattggaag gcgataatgc cagactcgca gtactcaagc gaagcgtcga 24300  
ggtcacacac ttgcgatatc ccgctgtcaa cctgccccct aaagtcatga cggcggtcat 24360  
ggaccagtta ctcatgaagc gcgcaagtcc cctttcagaa gacatgcatg acccagatgc 24420  
ctgtgatgag ggtaaaccag tggtcagtga tgagcagcta acccgatggc tgggcaccga 24480  
ctctccccgg gatttggaag agcgtcgcaa gcttatgatg gccgtgggtgc tggttaccgt 24540  
agaactagag tgtctccgac gtttctttac cgattcagaa accttgcgca aactcgaaga 24600  
gaatctgcac tacactttta gacacggctt tgtgcggcag gcatgcaaga tatctaactg 24660

ggaactcacc aacctgggtt cctacatggg tattctgcat gagaatcgcc taggacaaag 24720  
cgtgctgcac agcaccctta agggggaagc ccgccgtgat tacatccgcg attgtgtcta 24780  
tctctacctg tgccacacgt ggcaaaccgg catgggtgta tggcagcaat gtttagaaga 24840  
acagaacttg aaagagcttg acaagctctt acagaaatct ctttaagggtc tgtggacagg 24900  
gttcgacgag cgcaccgtcg cttccgacct ggcagacctc atcttcccag agcgtctcag 24960  
ggttactttg cgaaacggat tgcctgactt tatgagccag agcatgctta acaattttcg 25020  
ctctttcatc ctggaacgct ccggtatcct gcccgccacc tgctgcgcac tgccctccga 25080  
ctttgtgcct ctacactacc gcgagtgcc cccgccgcta tggagtcaact gctacctgtt 25140  
ccgtctggcc aactatctct cctaccactc ggatgtgatc gaggatgtga gcggagacgg 25200  
cttgctggag tgccactgcc gctgcaatct gtgcacgccc caccggtccc tagcttgcaa 25260  
ccccagttg atgagcgaaa ccagataat aggcacctt gaattgcaag gccccagcag 25320  
ccaaggcgat gggctcttc ctgggcaaag tttaaaactg accccgggac tgtggacctc 25380  
cgctacttg cgcaagtttg ctccggaaga ttaccacccc tatgaaatca agttctatga 25440  
ggaccaatca cagcctccaa aggccgaact ttcggcttgc gtcacaccc agggggcaat 25500  
tctggcccaa ttgcaagcca tccaaaaatc ccgccaagaa tttctactga aaaagggtaa 25560  
gggggtctac cttgaccccc agaccggcga ggaactcaac acaaggttcc ctcaggatgt 25620  
cccaacgacg agaaaacaag aagttgaagg tgcagccgcc gccccagaa gatatggagg 25680  
aagattggga cagtcaggca gaggaggcgg aggaggacag tctggaggac agtctggagg 25740  
aagacagttt ggaggaggaa aacgaggagg cagaggaggt ggaagaagta accgccgaca 25800  
aacagttatc ctcggtgcg gagacaagca acagcgctac catctccgct ccgagtcgag 25860  
gaaccggcg gcgtcccagc agtagatggg acgagaccgg acgcttcccg aaccaacca 25920  
gcgcttcaa gaccggttaag aaggatcggc agggatacaa gtcctggcgg gggcataaga 25980  
atgccatcat ctctgcttg catgagtgcg ggggcaacat atccttcacg cggcgctact 26040  
tgctattcca ccatggggtg aactttccgc gcaatgtttt gcattactac cgtcacctcc 26100  
acagccccta ctatagccag caaatccga cagtctcgac agataaagac agcggcggcg 26160  
acctccaaca gaaaaccagc agcggcagtt agaaaataca caacaagtgc agcaacagga 26220  
ggattaaaga ttacagccaa cgagccagcg caaacccgag agttaagaaa tcggatcttt 26280  
ccaaccctgt atgccatctt ccagcagagt cgggggtcaag agcaggaact gaaaataaaa 26340  
aaccgatctc tgcgttcgct caccagaagt tgtttgtatc acaagagcga agatcaactt 26400



cagcgcactc tcgaggacgc cgaggctctc ttcaacaagt actgcgcgct gactcttaaa 26460  
gagtaggcag cgaccgcgct tattcaaaaa aggcgggaat tacatcatcc tcgacatgag 26520  
taaagaaatt cccacgcctt acatgtggag ttatcaaccc caaatgggat tggcagcagg 26580  
cgctccccag gactactcca cccgcatgaa ttggctcagc gccgggcctt ctatgatttc 26640  
tcgagttaat gatatacgcg cctaccgaaa ccaaatactt ttggaacagt cagctcttac 26700  
caccacgccc cgccaacacc ttaatcccag aaattggccc gccgccctag tgtaccagga 26760  
aagtcccgct cccaccactg tattacttcc tcgagacgcc caggccgaag tccaaatgac 26820  
taatgcaggt gcgcagttag ctggcggctc caccctatgt cgtcacaggc ctcggcataa 26880  
tataaaacgc ctgatgatca gaggccgagg tatccagctc aacgacgagt cggtagagctc 26940  
tccgcttggt ctacgaccag acggaatctt tcagattgcc ggctgcggga gatcttcctt 27000  
caccctcgt caggctgttc tgactttgga aagttcgtct tcgcaacccc gctcgggagg 27060  
aatcgggacc gttcaatttg tagaggagtt tactccctct gtctacttca accccttctc 27120  
cggatctcct gggcactacc cggacgagtt cataccgaac ttcgacgcga ttagcgagtc 27180  
agtggacggc tacgattgat gtctggtgac gcggctgagc tatctcggct gcgacatcta 27240  
gaccactgcc gccgctttcg ctgctttgcc cgggaactta ttgagttcat ctacttcgaa 27300  
ctccccaagg atcacctca aggtccggcc cacggagtgc ggattactat cgaaggcaaa 27360  
atagactctc gcctgcaacg aattttctcc cagcggcccc tgctgatcga gcgagaccag 27420  
ggaaacacca cggtttccat ctactgcatt tgtaatcacc ccggattgca tgaaagcctt 27480  
tgctgtctta tgtgtactga gtttaataaa aactgaatta agactctcct acggactgcc 27540  
gcttcttcaa cccgattttt acaaccagaa gaacaaaact tttctgtcgc tccaggactc 27600  
tgttaacttc acctttccta ctacaaaact agaagctcaa cgactacacc gcttttccag 27660  
aagcattttc ctactaata ctactttcaa aaccggaggt gagctccacg gtctccctac 27720  
agaaaaccct tgggtggaag cgggccttgt agtactagga attcttgagg gtgggcttgt 27780  
gattattctt tgctacctat acacaccttg cttcactttc ctagtgggtg tgtggtattg 27840  
gtttaaaaaa tggggcccat actagtcttg cttgttttac tttcgctttt ggaaccgggt 27900  
tctgccatt acgatccatg tctagacttt gaccagaaaa actgcacact tacttttgca 27960  
cccgacacaa gccgcatctg tggagttctt attaatgacg gatgggaatg cagggtccgtt 28020  
gaaattacac acaataacaa aacctggaac aataccttat ccaccacatg ggagccagga 28080  
gttcccaggt ggtacactgt ctctgtccga ggtcctgacg gttccatccg cattagtaac 28140

aacactttca ttttttctga aatgtgcat ctggccatgt tcatgagcaa acagtattct 28200  
 ctatggcctc ctagcaagga caacatcgta acgttctcca ttgcttattg cttgtgcgct 28260  
 tgccttctta ctgctttact gtgcgtatgc atacacctgc ttgtaaccac tcgcatcaaa 28320  
 aacgccaata acaaagaaaa aatgccttaa cctctttctg tttacagaca tggcttctct 28380  
 tacatctctc atatttgta gcaattgtcac tgccgctcac ggacaaacag tcgtctctat 28440  
 cccactagga cataattaca ctctcatagg accccaatc acttcagagg tcctctggac 28500  
 caaactggga agcgttgatt actttgatat aatctgtaac aaaacaaaac caataatagt 28560  
 aacttgcaac atacaaaatc ttacattgat taatgttagc aaagtttaca gcggttacta 28620  
 ttatggttat gacagataca gtagtcaata tagaaattac ttggttcgtg ttaccagtt 28680  
 gaaaaccacg aaaatgccaa atatggcaaa gattcgatcc gatgacaatt ctctagaaac 28740  
 ttttacatct cccaccacac ccgacgaaaa aaacatccca gattcaatga ttgcaattgt 28800  
 tgcagcgggtg gcagtgggtga tggcactaat aataatatgc atgcttttat atgcttgcg 28860  
 ctacaaaaag tttcatccta aaaaacaaga tctctacta aggcttaaca tttaatttct 28920  
 ttttatacag ccatggtttc cactaccaca ttccttatgc ttactagtct cgcaactctg 28980  
 acttctgctc gctcacacct cactgtaact ataggctcaa actgcacact aaaaggacct 29040  
 caaggtggtc atgtcttttg gtggagaata tatgacaatg gatggtttac aaaaccatgt 29100  
 gaccaacctg gtagattttt ctgcaacggc agagacctaa ccattatcaa cgtgacagca 29160  
 aatgacaaag gcttctatta tggaaccgac tataaaagta gtttagatta taacattatt 29220  
 gtactgccat ctaccactcc agcaccgcc acaactactt tctctagcag cagtgtcgct 29280  
 aacaatacaa tttccaatcc aacctttgcc gcgcttttaa aacgcactgt gaataattct 29340  
 acaacttcac atacaacaat ttccattca acaatcagca tcatcgctgc agtgacaatt 29400  
 ggaatatcta ttcttgTTTT taccataacc tactacgct gctgctatag aaaagacaaa 29460  
 cataaagggtg atccattact tagatttgat atttaatttg ttcttttttt ttatttacag 29520  
 tatgggtgaac accaatcatg gtacctagaa atttcttctt caccatactc atctgtgctt 29580  
 ttaatgtttg cgctactttc acagcagtag ccacagcaac cccagactgt ataggagcat 29640  
 ttgcttccta tgcacttttt gcttttgta cttgcatctg cgtatgtagc atagtctgcc 29700  
 tggttattaa ttttttccaa ctcttagact ggatccttgt gcgaattgcc tacctgcgcc 29760  
 accatccga ataccgcaac caaaatatcg cggcacttct tagactcatc taaaaccatg 29820  
 caggctatac taccaatatt tttgcttcta ttgcttcct acgtgtctc aacccagct 29880

gcctatagta ctccaccaga acaccttaga aaatgcaa at tccaacaacc gtggtcattt 29940  
 cttgcttgct atcgagaaaa atcagaaatc cccccaaatt taataatgat tgctggaata 30000  
 attaataata tctgttgca cataatttca tttttgatat acccctatt tgattttggc 30060  
 tggaatgctc ccaatgcaca tgatcatcca caagaccag aggaacacat tccccacaa 30120  
 aacatgcaac atccaatagc gctaatagat tacgaaagt aaccacaacc ccactactc 30180  
 cctgctatta gttacttcaa cctaaccggc ggagatgact gaaacactca ccactccaa 30240  
 ttccgccgag gatctgctcg atatggacgg ccgcgtctca gaacaacgac ttgcccact 30300  
 acgcatccgc cagcagcagg aacgcgtggc caaagagctc agagatgtca tccaaattca 30360  
 ccaatgcaaa aaaggcatat tctgtttgg aaacaagcc aagatatacct acgagatcac 30420  
 cgctactgac catcgctct cttacgaact tggccccc aa cgacaaaaat ttacctgcat 30480  
 ggtgggaatc aaccccatag ttatcaccca acaaagtga gatactaagg gttgcattca 30540  
 ctgctcctgc gattccatcg agtgcaccta caccctgctg aagaccctat gcggcctaag 30600  
 agacctgcta ccaatgaatt aaaaaaaaaa gattaataaa aaatcactta cttgaaatca 30660  
 gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 30720  
 tggatattcta aaccccggtc agcggcatac tttctccata ctttaaagg gatgtcaa at 30780  
 tttagctcct ctctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 30840  
 ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 30900  
 cccctttata aacccagggt ttatttcccc aaatggcttc acacaaagcc cagacggagt 30960  
 tcttacttta aaatgtttaa cccactaac aaccacaggc ggatctctac agctaaaagt 31020  
 gggaggggga cttacagtgg atgacactga tggtaacct caagaaaaca tacgtgctac 31080  
 agcaccatt actaaaaata atcactctgt agaactatcc attggaaatg gattagaaac 31140  
 tcaaaacaat aaactatgtg ccaaattggg aaatgggta aaatttaaca acggtgacat 31200  
 ttgtataaag gatagtatta acaccttatg gactggaata aaccctccac ctaactgtca 31260  
 aattgtggaa aacactaata caaatgatgg caaacttact ttagtattag taaaaaatgg 31320  
 agggcttggt aatggctacg tgtctctagt tgggtgatca gacactgtga accaaatgtt 31380  
 cacacaaaag acagcaaaca tccaattaag attatatatt gactcttctg gaaatctatt 31440  
 aactgaggaa tcagacttaa aaattccact taaaaataaa tcttctacag cgaccagtga 31500  
 aactgtagcc agcagcaaag cctttatgcc aagtactaca gcttatccct tcaacaccac 31560  
 tactagggat agtgaaaact acattcatgg aatatgttac tacatgacta gttatgatag 31620

aagtctaattt cccttgaaca tttctataat gctaaacagc cgtatgattt cttccaatgt 31680  
tgcctatgcc atacaatttg aatggaatct aaatgcaagt gaatctccag aaagcaacat 31740  
agctacgctg accacatccc cctttttctt ttcttacatt acagaagacg acaactaaaa 31800  
taaagttaa gtgtttttat ttaaaatcac aaaattcgag tagttatttt gcctccacct 31860  
tcccatttga cagaatacac caatctctcc ccacgcacag ctttaaacad ttggatacca 31920  
ttagagatag acattgtttt agattccaca ttcaaacag tttcagagcg agccaatctg 31980  
gggtcagtga tagataaaaa tccatcgcg tagtctttta aagcgctttc acagtccaac 32040  
tgctgcggat gcgactccgg agtttggatc acggtcactt ggaagaagaa cgatgggaat 32100  
cataatccga aaacggtatc ggacgattgt gtctcatcaa acccacaagc agccgctgtc 32160  
tgcgtcgtc cgtgcgactg ctgtttatgg gatcagggtc cacagtttcc tgaagcatga 32220  
ttttaatagc ccttaacatc aactttctgg tgcgatgcgc gcagcaacgc attctgattt 32280  
cactcaaate tttgcagtag gtacaacaca ttattacaat attgtttaat aaaccataat 32340  
taaaagcgct ccagccaaaa ctcatatctg atataatcgc ccttgcatac ccatcatacc 32400  
aaagttaaat ataaattaaa tgacgttccc tcaaaaacac actaccacac tacatgatct 32460  
cttttggcat gtgcatatta acaatctgtc tgtacatgg acaacgttgg ttaatcatgc 32520  
aaccataat aaccttccgg aaccacactg ccaacaccgc tccccagcc atgcattgaa 32580  
gtgaaccctg ctgattacaa tgacaatgaa gaaccaatt ctctcgaccg tgaatcactt 32640  
gagaatgaaa aatatctata gtggcacaa atagacataa atgcatgcat cttctcataa 32700  
tttttaactc ctccaggattt agaaacatat cccagggaat aggaagctct tgcagaacag 32760  
taaagctggc agaacaagga agaccacgaa cacaacttac actatgcata gtcatagtat 32820  
cacaatctgg caacagcggg tggctttcag tcatagaagc tcgggtttca ttttctcac 32880  
aacgtggtaa ctgggctctg gtgtaagggt gatgtctggc gcatgatgtc gagcgtgcgc 32940  
gcaaccttgt cataatggag ttgcttctctg acattctctg attttgtata gcaaacgcg 33000  
gccctggcag aacacactct tcttcgctt ctatcctgcc gcttagcgtg ttccgtgtga 33060  
tagttcaagt acagccacac tcttaagttg gtcaaaagaa tgctggcttc agttgtaatc 33120  
aaaactccat cgcatactaat tgttctgagg aaatcatcca cggtagcata tgcaaatccc 33180  
aaccaagcaa tgcaactgga ttgcgtttca agcaggagag gagagggaag agacggaaga 33240  
accatgttaa tttttattcc aaacgatctc gcagtacttc aaattgtaga tcgctcagat 33300  
ggcatctctc gccccactg tgttggtgaa aaagcacagc taaatcaaaa gaaatgcgat 33360

tttcaagggtg ctcaacgggtg gcttccaaca aagcctccac ggcacatcc aagaacaaaa 33420  
 gaataccaaa agaaggagca ttttctaact cctcaatcat catattacat tcctgcacca 33480  
 ttcccagata attttcagct ttccagcctt gaattattcg tgtcagttct tgtggtaaatt 33540  
 ccaatccaca cattacaaac aggtcccgga gggcgccctc caccaccatt cttaaacaca 33600  
 ccctcataat gacaaaatat ctgtctcctg tgtcacctgt agcgaattga gaatggcaac 33660  
 atcaattgac atgcccttgg ctctaagttc ttctttaagt tctagttgta aaaactctct 33720  
 catattatca ccaaactgct tagccagaag cccccggga acaagagcag gggacgctac 33780  
 agtgcagtac aagcgcagac ctccccaatt ggctccagca aaaacaagat tggaataagc 33840  
 atattgggaa ccaccagtaa tatcatcgaa gttgctggaa atataatcag gcagagtttc 33900  
 ttgtagaaat tgaataaaag aaaaatttgc caaaaaaaca ttcaaacct ctgggatgca 33960  
 aatgcaatag gttaccgcg tgcgctccaa cattgttagt tttgaattag tctgcaaaaa 34020  
 taaaaaaaaa acaagcgtca tatcatagta gcctgacgaa caggtggata aatcagttct 34080  
 tccatcaca gacaagccac agggctctcca gctcgacct cgtaaacct gtcctcgtga 34140  
 ttaaacaaca gcaccgaaag ttcctcgcg tgaccagcat gaataagtct tgatgaagca 34200  
 tacaatccag acatgttagc atcagttaag gagaaaaaac agccaacata gcctttgggt 34260  
 ataattatgc ttaatcgtaa gtatagcaaa gccaccctc gcggatacaa agtaaaaggc 34320  
 acaggagaat aaaaaatata attatttctc tgctgctggt taggcaacgt cggccccggt 34380  
 ccctctaaat acacatacaa agcctcatca gccatggctt accagagaaa gtacagcggg 34440  
 cacacaaacc acaagctcta aagtcactct ccaacctstc cacaatatat atacacaagc 34500  
 cctaaactga cgtaatggga ctaaagtgt aaaaatcccg ccaaacccea cacacacccc 34560  
 gaaactgcgt caccaggga aagtacagtt tcaactccgc aatcccaaca agcgtcactt 34620  
 cctctttctc acggtacgtc acatcccatt aacttacaac gtcattttcc cacggccgcg 34680  
 ccgccccctt taaccgttaa cccacagcc aatcaccaca cggcccacac tttttaaaat 34740  
 cacctcattt acatattggc accattccat ctataaggta tattattgat gatg 34794